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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,002	06/21/2001	Whonchee Lee	108298515US3	9049

25096 7590 04/06/2004

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EXAMINER

NGUYEN, DUNG V

ART UNIT	PAPER NUMBER
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3723

DATE MAILED: 04/06/2004

22

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/888,002

Applicant(s)

LEE ET AL.

Examiner

Dung V Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 and 108-111 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25-35 and 108-111 is/are allowed.
- 6) ☒ Claim(s) 1,6,11-15,17 and 20 is/are rejected.
- 7) ☒ Claim(s) 2-5,7-10,16,18,19 and 21-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 21.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claims 1, 6, 11-15, 17 and 20 is withdrawn in view of the newly discovered reference(s) to Hisamatsu et al (USPN 5,993,637). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 6, 11-15, 17 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Hisamatsu et al (USPN 5,993,637). Hisamatsu et al discloses a method for removing electrically conductive material from a face surface of a microelectronic substrate comprising spacing a first conductive electrode 101 apart from the microelectronic substrate 202, spacing a second conductive electrode 103 apart from the microelectronic substrate 202, disposing an electrolyte 203 between the microelectronic substrate 202 and both the first and second electrodes, with both the first and second electrodes in fluid communication with the electrolyte 203, removing the conductive material from the microelectronic substrate 202 by passing a varying current through at least the first and second electrodes while the first and second electrodes are spaced apart from the conductive material of the microelectronic substrate 202, removing gas from a region between the microelectronic substrate and at least of the

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first and second electrodes while the conductive material is removed from the microelectronic substrate 202, providing fluid communication between the first and second electrodes proximate to the microelectronic substrate 202, with one of the electrodes defining an anode and the other electrode defining a cathode, wherein removing gas includes introducing ultrasonic energy into a fluid positioned between the microelectronic substrate 202 and at least one of the first and second electrodes, wherein removing gas includes directing a fluid into the region between the microelectronic substrate 202 and at least one of the first and second electrodes, generating the gas by passing the current through the conductive material, wherein passing a varying current through the first and second electrodes includes passing an alternating current, direct current pulses through the first and second electrodes, wherein removing the gas from a region includes removing the gas from a region between an upwardly facing surface of the microelectronic substrate 202 and a downwardly facing surface of at least one of the electrodes 101 and 103, conducting the gas along a gas removal surface from a region proximate to the microelectronic substrate 202 (note Fig. 1 and 2, col. 2, line 41 to col. 3, line 15, col. 4, line 18 to col. 8, line 64, col. 10, line 49 to col. 11, line 14).

Allowable Subject Matter

4. Claims 25-35 and 108-111 are allowed.
5. Claims 2-5, 7-10, 16, 18, 19 and 21-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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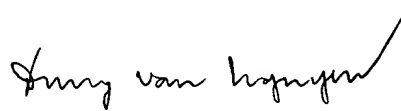
Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung V Nguyen whose telephone number is 703-305-0036. The examiner can normally be reached on M-F, 6:30-3:00.

7. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J Hail can be reached on 703-308-2687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DVN
February 6, 2004


DUNG VAN NGUYEN
PRIMARY EXAMINER